



SMALLPOX FACT SHEET – *Information for Clinicians*

Smallpox Vaccination Method

Multiple Puncture Vaccination

During the global smallpox eradication effort, the bifurcated needle was used along with a technique called multiple puncture vaccination. Today, this is still the recommended method for administering smallpox vaccine.

Each bifurcated needle is sterile and individually wrapped. The bifurcated needle is for one-time use only and should be discarded in an appropriate biohazard container immediately after vaccinating each patient.



Step-by-Step Instructions

- 1. Review patient history for contraindications.**
- 2. Choose the site for vaccination.**
The deltoid area on the upper arm is preferred.
- 3. Skin preparation.**
No skin preparation is required. Under no circumstances should alcohol be applied to the skin prior to vaccination as it has been shown to inactivate the vaccine virus.
- 4. Dip needle.**
The needle is dipped into the vaccine vial and withdrawn. The needle is designed to hold a tiny drop of vaccine of sufficient size and strength to ensure a take if properly administered. The same needle should never be dipped into the vaccine vial more than once, in order to avoid contamination of the vaccine vial.
- 5. Make perpendicular insertions within a 5-mm diameter area.**
The needle is held perpendicular to the site of insertion. The wrist of the vaccinator should be maintained in a firm position by resting on the arm of the vaccinee or another firm support.
 - A number of perpendicular insertions are made in rapid order in an area approximately 5 mm in diameter. Refer to the package insert for the exact number of insertions.
 - Strokes should be vigorous enough to evoke a trace of blood at the site after 15–30 seconds.
 - The bifurcated needle is for one-time use only and should be discarded in an appropriate biohazard container immediately after vaccinating each patient.
- 6. Absorb excess vaccine.**
After vaccination, excess vaccine should be absorbed with sterile gauze. Discard the gauze in a safe manner (usually in an infection control receptacle) to avoid contaminating the site or infecting others who may come in contact with it.

7. Cover vaccination site.

It is important that the vaccination site be covered to prevent dissemination of virus. Recommended coverings include the following:

- Sterile gauze loosely secured by tape (taking care to obtain history of tape sensitivity).
- Healthcare workers involved in direct patient care should keep their vaccination site covered with gauze or a similar absorbent material. This dressing should, in turn, be covered with a semipermeable dressing. Products combining an absorbent base with an overlying semipermeable layer also can be used to cover the vaccination site. Healthcare workers do not need to be placed on leave after receiving a smallpox vaccination.
- Vaccinees in settings where close personal contact is likely (such as parents of infants and young children) should cover the vaccination site with gauze or a similar absorbent material, wear a shirt or other clothing that would cover the vaccination site, and also make sure to practice good hand hygiene.

Perforated plastic bubbles also have been used to cover the vaccination site.

Note: The use of semipermeable dressing alone could cause maceration of the vaccination site and increased, prolonged irritation and itching at the site, thereby increasing touching, scratching, and contamination of the hands. Thus, only persons who are healthcare workers involved in direct patient care should use semipermeable dressings (over gauze or a similar absorbent material as described above).

8. Educate vaccinee.

To avoid contact transmission of the virus, vaccinees must be cautioned to do the following:

- No rubbing or scratching of vaccination site
- Keep site covered and change dressing every 1–2 days or if wet
- Discard gauze carefully in plastic bags
- Wash hands thoroughly after touching vaccine site or handling gauze
- Report any problems to the healthcare provider who administered the vaccine
- Return 7 days after vaccination for a “take” check (to see if the vaccination was successful)

9. Record the vaccination.

Record the following information in the patient record history form:

- Vaccine used
- Diluent used
- Lot number
- Any adverse health events

For more information, visit www.cdc.gov/smallpox, or call the CDC public response hotline at (888) 246-2675 (English), (888) 246-2857 (Español), or (866) 874-2646 (TTY)

December 11, 2002